

1. An apparatus for transferring packetized data, the apparatus comprising:
an input for receiving packetized data;
a memory coupled to the input and configured to store the packetized data in queues,
each queue having an associated size;
5 an output for transmitting the packetized data coupled to the memory; and
a controller operatively coupled to the memory and configured to control transfer of the
packetized data from the memory to the output, the controller being configured to determine
which of a plurality of ranges of sizes of queues has the largest range of sizes of queues and at
least one associated queue, and to discard packetized data of a selected queue from among the at
10 least one associated queue.

2. The apparatus of claim 1 wherein the controller is configured to discard
packetized data by de-allocating a portion of the memory storing the packetized data.

15 3. The apparatus of claim 1 wherein the controller is configured to discard
packetized data by re-allocating a portion of the memory storing the packetized data.

4. The apparatus of claim 3 wherein the controller is further configured to determine
whether a capacity of the node is exceeded, and wherein the controller is configured to determine
20 which of a plurality of ranges of sizes of queues has the largest range of sizes of queues and at
least one associated queue in response to determining that the capacity of the node is exceeded.

5. The apparatus of claim 1 wherein the controller is configured to select the queue from which to discard data independently of a size of the selected queue relative to sizes of other queues having sizes within the same range of sizes as the selected queue.

5 6. The apparatus of claim 1 wherein the controller comprises a processor configured to execute software instructions.

7. The apparatus of claim 1 wherein the controller comprises hardware configured to operate substantially independently of software instructions.

10 8. A system for transferring packetized data, the system comprising:
an input for receiving packetized data;
a memory coupled to the input and configured to store the packetized data in queues, each queue having an associated size;
an output for transmitting the packetized data coupled to the memory; and
control means operatively coupled to the memory for discarding at least one packet of data from a particular queue associated with a particular range of queue sizes that is larger than any other range of queue sizes that has at least one associated queue.

15 20 9. The system of claim 8 wherein the control means discards the at least one packet of data independently of a size of the particular queue relative to a size of any other queue associated with the particular range of queue sizes.

10. The system of claim 9 wherein the control means de-allocates a portion of the memory storing the at least one packet that is discarded.

11. The system of claim 10 wherein the control means re-allocates the portion of the
5 memory storing the at least one packet that is discarded.

12. A method comprising:

storing queues of packetized data in a network node for transfer from the network node
and indicia of sizes of the queues;

10 determining which of a plurality of ranges of sizes of queues has the largest range of sizes
of queues and at least one associated queue; and

discarding packetized data of a selected queue from among the at least one associated
queue.

15 13. The method of claim 12 wherein the discarding includes de-allocating memory
storing the packetized data.

14. The method of claim 12 wherein the discarding includes re-allocating memory
storing the packetized data.

20 15. The method of claim 14 further comprising determining whether a capacity of the
node is exceeded, and wherein the determining which of a plurality of ranges of sizes of queues

has the largest range of sizes of queues and at least one associated queue is determined in response to determining that the capacity of the node is exceeded.

16. A data flow method in a network node that transfers packets of data, the method
5 comprising:

storing queues of packetized data in the network node, for transfer from the network node, and indicia of sizes of the queues;
associating queues of packetized data with buckets having associated ranges of sizes of queues that can be associated with the buckets;

10 determining which of the buckets is at least partially filled and has the largest associated range of sizes of queues relative to any other bucket that is at least partially filled;
selecting a queue from the determined bucket; and
discarding packetized data from the selected queue.

15 17. The method of claim 16 wherein the discarding includes de-allocating memory storing the packetized data.

18. The method of claim 17 further comprising determining whether a capacity of the node for transferring packetized data is exceeded, and wherein the determining which of the 20 buckets that is at least partially filled has the largest associated range of sizes of queues relative to any other bucket that is at least partially filled is determined in response to determining that the capacity of the node is exceeded.